

## **AGRC E911 Annual Report (11/16/05)**

### **INTRODUCTION**

Utah has a long history of collaborative development of geographic information related to the State's transportation and address infrastructure. The goal has always been to cooperatively develop and share the best (most accurate, current, and complete) information about transportation related themes. It has been agreed formally through statute, and in practice, that the State Geographic Information Database (SGID), managed by the Automated Geographic Reference Center (AGRC) is the central clearinghouse for standardized digital transportation data for local, state, federal and tribal agencies in Utah. Currently, the primary emphasis on this enterprise is to support E911 activities through data integration and technical support. AGRC, working with local, state, and federal agency partners, is creating an accurate representation of transportation for the approximately 100,000 miles of roads in Utah.

### **APPROACH**

AGRC's approach is multi-faceted and can be categorized into 8 distinct functions; 1 through 5 being the current priorities.

- 1) **County and PSAP support.** AGRC meets with county leaders including commissioners, sheriffs, emergency services, PSAP operators and dispatchers, road department, recorders, assessors, and surveyors and the GIS coordinators. We are documenting what technologies they are using for ALI/ANI and dispatch and what their GIS data or technical support needs are. Technical support is provided for centerline creation including location and digitizing of roads; developing and implementing road naming conventions, standards, and rules; determine and populate other road name aliases along with creation of MSAG; addressing and grid generation identifying a center of origin and block sizes that suit the county; linear referencing systems; help determine signage locations, number of signs, and sign text. AGRC also support the E911 Committee by developing products including PSAP status map and cell phone provider coverage areas.
- 2) **Urban areas data.** Initially, the focus has been to complete and provide quality control for centerlines/addresses in urban areas where most of the population is. This includes examples like Salt Lake County where AGRC integrates data from multiple sources including VECC, Salt Lake City, and Salt Lake County to develop a comprehensive standardized data set. It also includes rural counties where AGRC is doing the field work for creation of GPS centerlines and calibration of address from field observation of signs and house numbers. This process often includes AGRC, the county, various cities, Blue Stakes, the Bureau of Census, U. S. Department of Transportation, Utah Department of Transportation, and the Division of Emergency Services.
- 3) **Rural populated areas data.** The next focus is the rural areas of the counties typified by farms, ranches and small subdivisions. These areas typically do not have addressing schemes or, have very sporadic and non-standardized addresses. AGRC is working with each county to develop a rural addressing scheme that makes sense for their geography. We also work with neighboring counties to ensure connectivity for both road centerline and descriptive attributes are accurate and logical.

- 4) **Public lands data.** CCP pilot. The Federal Communications Commission (FCC) requires wireless communications providers Automatic Location Identification (ALI) functionality. Acquisition of road centerlines across public lands using GPS technology has been a several year effort. It is near completion, but developing addressing schemes for these roads was not done. We are now working with individual counties and the public land management agencies to develop grid systems or linear reference systems for these areas. The Canyon Country Partnership is conducting a pilot project in Emery County to test one option for this endeavor. Similar activities are underway in Daggett and Rich counties.
- 5) **Processes for long term maintenance.** AGRC is working with each county, UDOT and federal agencies to determine best practices for each area to keep the data current. As more accurate data becomes available for a particular road segment or as new road segments are developed, a process must be in place to update the SGID, the PSAP data, and other databases requiring centerline / address information.
- 6) **TIGER modernization.** The Census Bureau has initiated a process to increase the accuracy and currency of their TIGER database. TIGER is the data used for redistricting and many federal programs requiring classification by population or demographic characteristics. Their goal is to have the entire nation's transportation base GPSed by 2006. They intend to use state and local data where it exists. Census will include all road centerline data in TIGER when complete. Since some PSAPs use commercial centerline datasets derived from TIGER, it is in the State's best interest to make sure TIGER is as accurate as possible.
- 7) **Provide access to the data.** The Utah State Legislature established the SGID in 1991 with the intent to serve as a repository and clearinghouse, and provide standards for data acquired in the State. All non-sensitive data in the SGID is publically accessible over the World Wide Web. Utah also coordinates with national activities including Geospatial One Stop (GOS) and the National Map (TNM). The GOS vision of the Federal Geographic Data Committee and the U.S. Office of Management and Budget is to "revolutionize e-government by providing a geographic component". This initiative will contribute to Utah's transportation data activities by developing and implementing data standards, maintain an inventory of data, publish metadata for planned data acquisition and update activities, prototype and deploy web mapping services, establish a federal portal to national data resources. The National Map, initiated by the US Geological Survey, will develop a national database for framework layers including transportation. This database will be the primary source for all federal agency geographic information needs. All transportation / address data developed in support of E911 will be available through these state and national data portals.
- 8) **Provide base data for Homeland Security:** Geographic Information Systems and data are essential to Utah's Homeland Security initiative, serving as the framework for vulnerability assessment, preparedness planning, and response and recovery. The GIS Advisory Committee, working with the Department of Public Safety and the Office of the State's Chief Information Officer, is taking the lead on insuring the most accurate, current, and detailed

data is available. This group will lead in identification of transportation vulnerabilities to intentional disruption. Utah has a number of areas where terrain limits the options for ground travel. Principal routes through the state abound with "choke points" vulnerable to anything from an avalanche or landslide, to the deliberate destruction of an overpass, bridge, or a toxic material spill. The use of GIS and current transportation data will help model alternate routes and other function necessary for E911 response.

### **CURRENT STATUS**

In this section, we will list overall activities, priorities and summarize the activities in each county.

#### **Beaver County**

On March 14, 2005, AGRC met with the County Commission, Attorney Christiansen, and Keven Whicker (County GIS) to obtain permission to use the rural GPS centerlines that cross public land – County approved. AGRC integrated the DLG/CFF road centerlines (derived from USGS 1:24K topo maps) with the rural GPS centerlines that cross public land and non-rural GPS centerlines. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated extensively on the road centerlines within each town. For roads traveling outside of the towns, such attributes are only partially populated. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is available in the SGID (State Geographic Information Database). The dataset has been submitted to the Census Bureau for TIGER Modernization. Kevin Whicker will further improve and maintain the dataset for currency.

#### **Box Elder County**

In 2002, AGRC collected the GPS road centerlines within each town and populated their address ranges, street names, prefix/suffix directions, zip codes, etc. extensively. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will integrate all of the existing GPS data and DLG/CFF data into one dataset. The dataset should be available in the SGID by early 2006.

#### **Cache**

In 2002, AGRC collected the GPS road centerlines within each town and subdivision. AGRC integrated all of the GPS road centerlines into one dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated extensively on streets within each town. The AGRC made field observations to determine such attributes for street centerlines traveling on the outskirts of each town. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the data into one dataset. The current dataset available on the SGID consists of the GPS road centerlines within the towns and the DLG/CFF road centerlines in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

**Carbon**

Ben Clement (County GIS/roads) maintains the county's road centerline dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated extensively on streets within each town. AGRC integrated this data with the DLG/CFF road centerlines to create a comprehensive dataset. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the County's data into one dataset. The current dataset available in the SGID consists of road centerlines within each town and DLG/CFF data in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

**Daggett**

On May 11, 2005, Commissioner Craig Collett gave AGRC permission to use the rural GPS centerlines that cross public land. AGRC integrated all of the GPS road centerlines into one comprehensive dataset. AGRC is currently assisting the county with their rural addressing needs. AGRC created several address grids for the entire county and is working with Lesa Asay (Assessor/County GIS) to calibrate the road centerlines accordingly. When complete, all road centerlines within each town and subdivision will have address ranges, street names, prefix/suffix directions, zip codes, etc. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. Lesa Asay will further improve and maintain the dataset for currency. The dataset currently available in the SGID consists of GPS road centerlines in the towns and DLG/CFF data in the remaining parts of the county. The new dataset should be available in the SGID by early 2006. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization.

**Davis**

Dave Vance (County GIS) maintains the county's road centerline dataset. The road centerline attributes within each city/subdivision have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC integrated the County's road centerline data with the DLG/CFF road centerlines to create a comprehensive dataset. The current dataset available in the SGID consists of the county data and the DLG/CFF road centerlines in the remaining parts of the county. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization.

**Duchesne**

On October 4, 2004, AGRC met with Commissioner Stradinger, Attorney Cleave Hatch, and Stoney Monks (GIS) to obtain permission to use the rural GPS centerlines that cross public land – County approved. AGRC will meet with the County to discuss their needs in terms of addressing and data integration. The dataset has not been submitted to the Census Bureau for TIGER Modernization.

**Emery**

Jeff Guymon (County GIS) is finalizing the County's addressing dataset. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Emery County is currently coordinating with

neighboring counties to develop a common road name for each road that travels in and out of the county. The dataset has not been submitted to the Census Bureau for TIGER Modernization.

### **Garfield**

In 2002, AGRC collected the GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the GPS data into one comprehensive dataset. The current dataset available in the SGID consists of GPS road centerlines in the towns and DLG/CFF data in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

### **Grand**

Dave Vaughn (County GIS/Road Department) maintains the county's road centerline dataset. On May 11, 2004, AGRC met with Chief Deputy Sheriff Squire, Dave Vaughn (County GIS/Road Department), and Jerry McNeely (Council Member) to obtain permission to use the rural GPS road centerlines that cross public land – County approved. In 2004, AGRC collected the GPS centerlines in the Moab area. In 2005, AGRC created an address grid for Castle Valley and calibrated the road centerlines accordingly. AGRC integrated the Castle Valley and Moab GPS road centerlines with the county's data into one comprehensive dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated extensively on the road centerlines within each town. For streets traveling outside of the towns, such attributes have been partially populated. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset will be available on the SGID by early 2006. The dataset has been submitted to the Census Bureau for TIGER Modernization.

### **Iron** (see figure 1)

On June 28, 2004, AGRC met with the County Commission and Jared Wilson (County GIS) to obtain permission to use the rural GPS road centerlines that cross public land – County approved. AGRC collected GPS road centerlines in all of the urban areas and their outskirts. AGRC integrated all of the GPS road centerlines into one comprehensive dataset and populated the urban street centerlines with address ranges, street names, prefix/suffix directions, zip codes, etc. The AGRC made field observations to determine such attributes for street centerlines traveling on the outskirts of the urban areas. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is available in the SGID. The dataset has been submitted to the Census Bureau for TIGER Modernization. Jared Wilson will further improve and maintain the dataset for currency.

### **Juab**

On March 20, 2005, Glenn Greenhalgh gave AGRC permission to use the rural GPS centerlines that cross public land. AGRC integrated all of the GPS road centerlines into

one comprehensive dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated on the road centerlines within each town extensively. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The current dataset available in the SGID consists of GPS road centerlines in the towns and DLG/CFF data in the remaining parts of the county. The comprehensive dataset is scheduled to be available on the SGID by early 2006. The dataset has been submitted to the Census Bureau for TIGER Modernization.

#### **Kane**

On October 26, 2004, AGRC met with Commissioner Habbeshaw, Dave Owens (E911), and Mike Savage/Todd Breinholt of South Central Communications to obtain permission to use the rural GPS road centerlines that cross public land – County approved. In 2003, AGRC collected the GPS road centerlines within each town. The address ranges, street names, prefix/suffix directions, zip codes, etc. were populated extensively on these roads. The current dataset available in the SGID consists of GPS road centerlines in the towns and DLG/CFF data in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

#### **Millard**

On March 17, 2005, Adam Britt (County GIS) gave AGRC permission to use the rural GPS road centerlines that cross public land. In 2004, AGRC collected the GPS road centerlines within each town. AGRC integrated all of the GPS road centerlines into one comprehensive dataset and populated the address ranges, street names, prefix/suffix directions, zip codes, etc. extensively within each town. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is available in the SGID. The dataset has been submitted to the Census Bureau for TIGER Modernization. Adam Britt will further improve and maintain the dataset for currency.

#### **Morgan**

In 2003/2004, AGRC collected the GPS centerlines for all accessible roads in the county. AGRC integrated the GPS road centerlines with the DLG/CFF data into one comprehensive dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated extensively on the road centerlines within each town. The AGRC made field observations to determine such attributes for street centerlines traveling on the outskirts of the towns. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The comprehensive dataset is available in the SGID. The dataset has been submitted to the Census Bureau for TIGER Modernization. Austin Rowser (County Planning Office/GIS) will further improve and maintain the dataset for currency.

#### **Piute**

On August 8, 2005, AGRC met with the County Commission and Dave Whittaker (County GIS) to obtain permission to use the rural GPS road centerlines that cross public land – County approved. In 2003, AGRC collected the GPS centerlines within each town and integrated the rural GPS road centerlines with the DLG/CFF data into one

comprehensive dataset. AGRC populated the address ranges, street names, prefix/suffix directions, zip codes, etc. on the road centerlines within each town. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The current dataset available in the SGID consists of GPS road centerlines in the towns and DLG/CFF data in the remaining parts of the county. The comprehensive dataset will be available in the SGID by early 2006. The dataset has been submitted to the Census Bureau for TIGER Modernization. Dave Whittaker will further improve and maintain the dataset for currency.

### **Rich**

On September 1, 2005, Debbie Ames (Recorder/County GIS) & Commissioner Cox gave AGRC permission to use the rural GPS road centerlines that cross public land. In 2002/2003, AGRC collected the GPS road centerlines within each town and subdivision. AGRC integrated all of the GPS centerlines into one comprehensive dataset and populated the address ranges, street names, prefix/suffix directions, zip codes, etc. on the road centerlines within each town. With assistance from Debbie Ames, AGRC populated the address ranges, street names, etc on subdivision road centerlines. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is available in the SGID. The dataset has been submitted to the Census Bureau for TIGER Modernization. Debbie Ames will further improve and maintain the dataset for currency.

### **San Juan**

On May 11, 2005, AGRC met with Dave Bronson (County GIS), Rick Bailey (E911), and the County Commission to obtain permission to use the rural GPS centerlines that cross public land – County approved. Dave Bronson maintains the county's GPS road centerline dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated extensively on streets within each town. For streets traveling outside of the towns, such attributes are partially populated. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is available in the SGID. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization.

### **Salt Lake**

The AGRC is working with Salt Lake County in creating a countywide road centerline dataset. Currently, AGRC receives monthly updates from VECC (Valley Emergency Communications Center) and their partnering cities. The remaining road centerlines in Salt Lake County, the unincorporated areas, are being spatially adjusted (corrected) by Salt Lake County. In the meantime, AGRC has built an automated process to integrate Salt Lake County's data with VECC's data to create a comprehensive dataset. The Census Bureau has agreed to accept the final dataset for Salt Lake County no later than November 30<sup>th</sup> for TIGER Modernization.

### **Sanpete**

On October 22, 2004, AGRC met with Sheriff Larsen and Reed Hatch (Recorder/County GIS) to obtain permission to use the rural GPS road centerlines that cross public land –

County approved. In 2003/2004, AGRC collected the GPS road centerlines within each town and subdivision. AGRC integrated all of the GPS road centerlines into one comprehensive dataset and populated the address ranges, street names, prefix/suffix directions, zip codes, etc. on the road centerlines within each town. AGRC made field observations to determine such attributes for street centerlines traveling on the outskirts of each town. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is available in the SGID. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization. Reed Hatch will further improve and maintain the dataset for currency.

### **Sevier**

On June 7, 2004, AGRC met with Cynthia Nielsen (County GIS) and Jeff Nelson (E911/PSAP) to obtain permission to use the rural GPS road centerlines that cross public land - County approved. In 2004, AGRC collected the GPS road centerlines within each town. AGRC integrated all of the GPS road centerlines into one comprehensive dataset. The address ranges, street names, prefix/suffix directions, zip codes, etc. have been populated on the road centerlines within each town extensively. AGRC made field observations to determine the attributes for street centerlines traveling on the outskirts of each town. Roads traveling across public land have no address ranges but may have names in the dataset's attribute table. The dataset is scheduled to be available on the SGID by early 2006. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization.

### **Summit**

Jeff Ward (County GIS) maintains the county's road centerline database. The county digitized the road centerlines within the urban areas/subdivisions and populated the address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC integrated the County's data with the DLG/CFF road centerlines to create a comprehensive dataset. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the County's data (GPS, digitized, DLG/CFF) into one dataset. The current dataset available in the SGID consists of the digitized road centerlines in the urban areas/subdivisions and DLG/CFF data in the remaining parts of the county. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization.

### **Tooele**

Ed Hom (County GIS) maintains the county's GPS road centerline dataset. The road centerline attributes within each town have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will integrate the County's GPS data with the DLG/CFF road centerlines to create a comprehensive dataset. The dataset has been submitted to the Census Bureau for TIGER Modernization.



## **Uintah**

Jordan Merrill (County GIS) maintains the county's GPS road centerline dataset. The road centerline attributes within each town have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC is in the process of integrating the County's GPS data with the DLG/CFF road centerlines to create a comprehensive dataset. On February 24, 2005, Jordan Merrill gave AGRC permission to use the rural GPS centerlines that cross public land. The comprehensive dataset is scheduled to be available on the SGID by early 2006. The dataset has been submitted to the Census Bureau for TIGER Modernization.

## **Utah**

Patrick Waro (County GIS) maintains the county's road centerline dataset. The road centerline attributes within each city have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC integrated the County's road centerline data with the DLG/CFF road centerlines to create a comprehensive dataset. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the existing data into one dataset. The current dataset available in the SGID consists of the county data and the DLG/CFF road centerlines in the remaining parts of the county. The dataset has been submitted to the Census Bureau and approved for TIGER Modernization.

## **Wasatch**

Ivan Spencer (County GIS) maintains the county's road centerline dataset. The road centerline attributes within each town/subdivision have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC integrated the County's road centerline data with the DLG/CFF road centerlines to create a comprehensive dataset. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the existing data into one dataset. The current dataset available in the SGID consists of the county data and the DLG/CFF road centerlines in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

## **Washington**

Paul Pfaehler (County GIS) maintains the county's road centerline dataset. The road centerline attributes within each city/subdivision have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC integrated the County's road centerline data with the DLG/CFF road centerlines to create a comprehensive dataset. On May 6, 2004, AGRC met with Ron Whitehead (County Surveyor), Commissioner Gardner, Shayne Scott (former County GIS Department), Deon Goheen, and Lonnie Bowler to obtain permission to use the rural GPS road centerlines that cross public land – approval pending. The current dataset available in the SGID consists of the county data and the DLG/CFF road centerlines in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

**Wayne**

In 2002, AGRC collected the GPS road centerlines within each town and populated the address ranges, street names, prefix/suffix directions, zip codes, etc. On August 31, 2005, AGRC met with Commissioner Durrfey to obtain permission to use the rural GPS road centerlines that cross public land – County approved. AGRC is coordinating with Wayne County to determine their rural addressing needs. AGRC is currently working on the Caineville address grid and calibrating the road centerlines accordingly. When complete, all of the road centerlines within each town and subdivision will have address ranges, street names, prefix/suffix directions, zip codes, etc. The current dataset available in the SGID consists of GPS road centerlines in the towns and DLG/CFF data in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

**Weber**

Jim Quarles (County GIS) maintains the county's road centerline dataset. The road centerline attributes within each city/subdivision have been populated with address ranges, street names, prefix/suffix directions, zip codes, etc. AGRC integrated the County's road centerline data with the DLG/CFF road centerlines to create a comprehensive dataset. AGRC will schedule a meeting with the County Commission to obtain permission to use the rural GPS centerlines that cross public land. Afterwards, AGRC will be able to integrate all of the existing data into one dataset. The current dataset available in the SGID consists of the county data and the DLG/CFF road centerlines in the remaining parts of the county. The dataset has been submitted to the Census Bureau for TIGER Modernization.

Iron County - Address Range Status  
(Figure 1)

